

STORAGE

FAQ

Q Can I install Windows programs on an external hard disk?

A It depends on the program, so check with the software's developer. Many programs will run only if installed on the same internal hard disk as your Windows installation: the C: disk. If your C: disk is low on capacity, most computers can have their internal hard disks upgraded quite easily, which is preferable to installing software on an external disk.

Even if a program will install on and run from an external hard disk, Windows may reassign its drive letter if you disconnect and reconnect it, meaning your software ceases to work. You can permanently assign a particular drive letter to drive. Instructions can be found at <http://tinyurl.com/24rj5z>.

An alternative is <http://portableapps.com>. This website maintains a selection of open-source programs, such as OpenOffice, that have been modified for installation on an external disk.

Alan Lu

PC systems and storage expert

alan@computersshopper.co.uk



ASUS BC-1205PT

★★★★

£153 inc VAT

From www.overclock.co.uk



The BC-1205PT is a SATA DVD writer that can also read Blu-ray discs. It can't write data to blank Blu-ray discs, but Blu-ray writers are a lot more expensive. We had no trouble watching our Blu-ray movies using the included copy of CyberLink PowerDVD.

The BC-1205PT came close to reaching its stated 4X when writing two-layer DVDs. Unfortunately, it couldn't reach its claimed 12X for writing single-layer DVDs. It didn't even manage 8X, which is the slowest speed of any DVD writer we've seen recently.

If you can live with its DVD writing performance, the BC-1205PT is an affordable way of adding Blu-ray playback to your PC. But if you already have Blu-ray playback software, Pioneer's BDC-202 (reviewed in *Shopper* 236) is £50 cheaper than the BC-1205PT and performed similarly in our DVD writing tests.

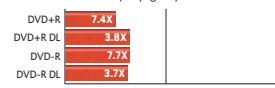
Alan Lu

SUMMARY

- ✓ Inexpensive for Blu-ray
- ✓ Fast two-layer DVD writing
- ✗ Slow at writing single-layer DVDs

BLU-RAY COMBO DRIVE 12X DVD-R, 12X DVD+R, 6X DVD-RW, 6X DVD+RW, 4X DVD-R DL, 4X DVD+R DL, 5X DVD-RAM, 24X CD-R, 24X CD-RW
PART CODE BC-1205PT
DETAILS <http://uk.asus.com>

PERFORMANCE (see page 62)



ENERMAX Jazz 2.5 SATA I&II

★★★★★

£18 inc VAT

From www.edirectory.co.uk



Enermax's Jazz 2½in hard disk enclosure allows you to install a SATA hard disk to use it as an external USB disk. Despite its low price, the Jazz looks classy and feels sturdy thanks to the brushed metal and mesh grille design.

Although the mesh grille is supposed to help cool the hard disk, the disadvantage is that it exposes the disk to potential spillages. This is partially compensated for by the inclusion of a carry pouch.

It's easy to fit a hard disk inside the Jazz, despite the poor instructions. We fitted a 5,400rpm 160GB hard disk and its performance was in line with what we'd expect from a portable USB hard disk.

The Jazz isn't flawless, but for less than £20 it's good value.

Alan Lu

SUMMARY

- ✓ Straightforward installation
- ✓ Attractive and sturdy design
- ✗ Mesh grill open to spills

2½in SATA HARD DISK ENCLOSURE Takes one 2½in SATA hard disk, USB Hi-Speed interface
PART CODE EB207S
DETAILS www.enermax.co.uk

PERFORMANCE (see page 62)



Also consider...

COOLER MASTER X Craft 360

★★★★★

£33 inc VAT

From www.yoyotech.co.uk



We tested Cooler Master's X Craft 360 disk enclosure with a 320GB Samsung hard disk. Apart from copying large files over eSATA, its performance over both USB and eSATA was in line with our expectations. It's a little noisier than other eSATA enclosures, though. Installing a disk inside the X Craft was effortless since it doesn't require a screwdriver. This alone makes it a useful product.

3½in HARD DISK ENCLOSURE Takes one 3½in SATA hard disk, eSATA, USB Hi-Speed interface
PART CODE RX-360
DETAILS www.coolermaster.com
FULL REVIEW Dec 2007



LACIE d2 eSATA II 3Gbits Hard Drive 500GB

★★★★★

£110 inc VAT

From www.cclonline.com



LaCie's d2 external hard disk has a reassuringly heavy metallic case but is unusual in having no other interface besides eSATA. Its excellent performance almost matched that of an internal SATA II disk, so it's much faster than any USB or FireWire 400 disk, and quicker than most FireWire 800 disks.

The d2 is a very fast external hard disk and shows the speed benefits of eSATA.

EXTERNAL HARD DISK 500GB capacity, 465GB formatted capacity (NTFS), eSATA
PART CODE 300976EK
DETAILS www.lacie.com/uk
FULL REVIEW Sep 2007



RAIDSONIC IcyBox IB-3220StU-B

★★

£43 inc VAT
From www.cclonline.com

RaidSonic's IcyBox IB-3220StU-B is an external hard disk enclosure that can accommodate up to two SATA hard disks. The packaging claims that the IcyBox supports JBOD (Just a Bunch of Disks) technology, but this isn't true.

JBOD allows two separate hard disks to be recognised by Windows as a single drive. This can make storing and managing large amounts of data more convenient. However, we found that any pair of disks inserted into the IcyBox – no matter the model or manufacturer – were recognised by Windows as separate disks. RaidSonic's technical support and a closer examination of the IcyBox's instructions confirmed that this is its intended mode of operation. Although the IcyBox still saves space and reduces cable clutter compared to using a pair of single-disk enclosures, the lack of JBOD support is disappointing and misleading.

Fitting a hard disk into the IcyBox is more cumbersome than it should be. The drive bay doors can only be unlocked using the provided plastic keys, which are easy to break or lose. The locking mechanisms are prone to jamming, and required delicate shimmying to open and close them properly. When it came to performance, we were disappointed by the IcyBox's below-average performance in our file transfer tests when fitted with a pair of identical 500GB disks.

The IcyBox IB-3220StU-B is a missed opportunity. Its fiddly installation, disappointing performance and lack of JBOD support all count against it. Unless you're severely lacking desk space, Cooler Master's X Craft 360 (see below) is a better hard disk enclosure.

Alan Lu



SUMMARY

- ✓ Space-saving design
- ✗ No JBOD support
- ✗ Disappointing performance

EXTERNAL MULTIPLE HARD DISK ENCLOSURE Takes two 3½in SATA hard disks, USB Hi-Speed interface
PART CODE IB-3220StU-B
DETAILS www.raidsonic.de

PERFORMANCE (see page 62)



STORAGE DEPOT Combo Dual Format DVD RW Drive

★★★★

£45 inc VAT
From www.storage depot.co.uk

Storage Depot's latest external DVD writer supports LG's SecurDisc technology, which allows you to password-protect discs written using the included copy of Nero Essentials (or the full version of Nero Premium, available separately). Files on such discs can't be opened without the appropriate password, although they can still be seen in Windows Explorer. It's more than enough to deter casual snoopers, though, and it adds only a few seconds to the time taken to burn a full disc.

Disc-writing speeds were generally fast. It was quick at writing DVD-R discs and was one of the fastest burners we've seen for two-layer DVDs. Unfortunately, it wasn't as impressive when writing DVD+R discs, where it was one of the slowest external drives we've tested.

Usefully the Combo can be connected to your PC using either USB2 or FireWire 400. Strangely, though, there's only one six-pin FireWire port on the rear along with one four-pin port, instead of two six-pin ports. If you want to connect multiple FireWire devices to your computer by daisy-chaining them, the Combo Drive will have to be the last device in the chain.

Storage Depot's writer is generally fast but is distractingly loud because of its cooling fan. If you want an external DVD writer with SecurDisc support and can live without a FireWire interface, LG's own GSA-E60L (£35 from www.amazon.co.uk) is a better choice. It has similar performance but is much quieter.

Alan Lu



SUMMARY

- ✓ Generally good performance
- ✓ Can password-protect discs
- ✗ Noisy

EXTERNAL DVD WRITER 20X DVD-R, 20X DVD+R, 6X DVD-RW, 8X DVD+RW, 10X DVD-R DL, 10X DVD+R DL, 12X DVD-RAM, 48X CD-R, 32X CD-RW, 16X DVD, 48X CD, USB Hi-Speed, FireWire 400 interface
DETAILS www.storage depot.co.uk

PERFORMANCE (see page 62)



WESTERN DIGITAL Scorpio 250GB

★★★★★

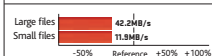
£90 inc VAT
From www.pcnextday.co.uk



Western Digital's 250GB Scorpio is the roomiest laptop disk yet, rivaling the capacity of some desktop disks. It is also one of the fastest 2½in hard disks we've seen and, what's more, it didn't reduce the battery life of our laptop, unlike some other 2½in disks.

It all adds up to the best laptop hard disk we've seen, although it won't fit older notebooks since it uses a SATA rather than a PATA connection.

2½in INTERNAL HARD DISK 250GB capacity, 232GB formatted capacity (NTFS), SATA interface, 5,400rpm spindle speed
PART CODE 3384-5628
DETAILS www.westerndigital.com
FULL REVIEW Jan 2008



LITEON LH-20A1H

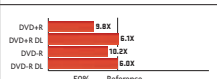
★★★★★

£28 inc VAT
From www.pcwb.com

LiteOn's LH-20A1H DVD writer didn't top the charts in any of our tests, but it was still consistently fast at writing all discs. It strikes the right balance between price, bundled software and performance. As it comes bundled with Nero Recode, which can fit a two-layer DVD movie on to cheaper single-layer discs, it's a great-value DVD writer.



INTERNAL DVD WRITER 20X DVD-R, 20X DVD+R, 6X DVD-RW, 8X DVD+RW, 8X DVD-R DL, 8X DVD+R DL, 12X DVD-RAM, 48X CD-R, 32X CD-RW
PART CODE LH-20A1H
DETAILS www.litenonit.eu
FULL REVIEW Feb 2008



SAMSUNG Super-WriteMaster SE-S204

★★★★★

£44 inc VAT
From www.amazon.co.uk



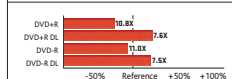
Samsung's Super-WriteMaster SE-S204 is one of the fastest external DVD burners when writing DVD+R DL and DVD-R DL discs, with speeds of 7.56X and 7.51X.

It achieved 11X speeds in our DVD-R test and over 10X when burning DVD+Rs.

Samsung provides a good software bundle, too.



EXTERNAL DVD WRITER 20X DVD-R, 20X DVD+R, 6X DVD-RW, 8X DVD+RW, 12X DVD-R DL, 16X DVD+R DL, 12X DVD-RAM, 48X CD-R, 32X CD-RW
PART CODE SE-S204
DETAILS www.samsung.com
oms-europe.com
FULL REVIEW Feb 2008



HYPERTEC
Primary FireStorm Ultra-Slim 80GB 2.5" SATA
★★
£74 inc VAT
From www.amazon.co.uk

Hypertec's oddly named Primary Firestorm is an 80GB portable USB hard disk. The brushed metal enclosure feels sturdy and looks classy. A handy USB-to-5V cable is included in case a single USB port is unable to provide enough power.

Performance in our file transfer tests was inconsistent. It was slow writing big files and reading small files but was fast reading big files and writing small files. The bundled software is also disappointing. SyncBack is a backup utility, supporting both scheduled and incremental backups. The TrueCrypt encryption program can password-protect your files or even the entire disk. However, both utilities have poor interfaces.

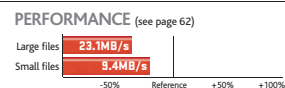
The FireStorm's biggest flaw is its price. It costs 78p per gigabyte. Western Digital's 160GB Passport (see 'Also consider...', below) is cheaper and has double the capacity.

Alan Lu

SUMMARY

- ✓ Sturdy, attractive design
- ✗ Inconsistent performance
- ✗ Expensive for the capacity

PORTABLE EXTERNAL HARD DISK
80GB capacity, 5400rpm spindle speed, USB Hi-Speed interface
PART CODE FSUV2S-H80U2/5
DETAILS www.hypertec.co.uk


HITACHI
TravelStar 7K200
★★★★
£127 inc VAT
From www.morecomputers.co.uk

Hitachi's 200GB TravelStar hard disk is compatible only with SATA laptops. It has a spindle speed of 7,200rpm, which is faster than most laptop hard disks, which spin at 5,400rpm.

The TravelStar attained the fastest speeds we've ever seen from a laptop disk in our large files tests. However, in our small files tests it was slower than some 5,400rpm disks we've seen.

Our laptop's battery lasted three hours and 47 minutes with its stock 5,400rpm 120GB disk fitted. With the TravelStar installed, battery life was reduced by only four minutes.

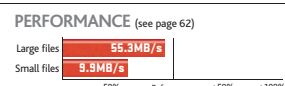
The TravelStar is impressively fast at copying large files, but its small files performance is disappointing. It's also expensive, at 67p per gigabyte. Western Digital's 250GB Scorpio (see 'Also consider...', page 51) is better value.

Alan Lu

SUMMARY

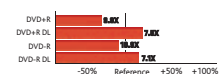
- ✓ Excellent large files performance
- ✗ Disappointing small files speeds
- ✗ High cost per gigabyte

SATA HARD DISK 200GB hard disk, 190GB formatted capacity (NTFS), SATA/150 interface, 7,200rpm spindle speed, 16MB cache, 10.0ms seek time, 29dBA noise when idle PART CODE HTS722020K9SA00
DETAILS www.hitachigst.com


Also consider...
LG
GSA-E50N
★★★★★
£48 inc VAT from www.ebuyer.com

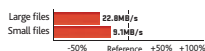

LG's GSA-E50N portable DVD writer costs less than £50, but still looks sleek. It performed well in all our tests. It can also password-protect discs using the included copy of Nero. Files are still visible in Windows Explorer but can't be opened without a downloadable utility and your password. This is a good-value portable DVD writer.

EXTERNAL DVD WRITER 8X DVD-R, 8X DVD+R, 6X DVD-RW, 8X DVD+RW, 6X DVD-R DL, 6X DVD+R DL, 5X DVD-RAM, 24X CD-R, 24X CD-RW
PART CODE GSA-E50N
DETAILS <http://uk.lge.com>
FULL REVIEW Feb 2008


WESTERN DIGITAL
Passport 160GB
★★★★★
£67 inc VAT from www.amazon.co.uk


Western Digital's Passport has a rubber base which stops it sliding around and a protective flap covering the USB port. It's also cheap at just 45p per gigabyte. It performed fairly well in all our tests, although it was slower writing small files. It isn't the fastest portable disk we've seen, but its low cost per gigabyte and neat design earn it a Best Buy award.

PORTABLE EXTERNAL HARD DISK 160GB capacity, USB Hi-Speed interface
PART CODE WDXMS1600
DETAILS www.westerndigital.com
FULL REVIEW Sep 2007


**CHOOSING A...
NAS
Device**
Follow the steps to find your ideal specs
CAPACITY: 250GB

INTERFACE: 100/1,000Mbit/s Ethernet

Recommended minimum in grey

1 A basic Network Attached Storage (NAS) device with the specifications above will cost around £100. It has only a single hard disk, so you'll need to make backups to protect your data, and you can't upgrade its storage capacity.

Its Gigabit Ethernet interface means that it transfers data quickly, although to use it at this speed, you'll need computers with Gigabit Ethernet network adaptors and a Gigabit Ethernet switch or router. Computers with 10/100 adaptors will still be able to access the NAS device, but at just 100Mbit/s.

2 The amount of network storage you need depends on the types of files you use. If you want to store Word and Excel documents, for example, a 250GB device will be more than enough. If you intend to hoard DVD-quality video, on the other hand, you'll need much more. A single uncompressed DVD image can represent up to 8.5GB of data so even a modest media collection will require around 500GB of storage space.

3 If you can see no end to your storage needs, consider buying an upgradeable NAS device. Many have a USB port so you can add a second, external disk.

Devices such as Synology's barebones NAS kits with spare disk trays allow for cheaper and faster upgrades in the future.

4 If you want extra protection for your data, look for a device that supports RAID. A RAID 1 or RAID 5 array reduces the available capacity, but if one disk fails then your data remains safe.

5 If you need access to your files while you're away from home or the office, look for a NAS with an FTP server. Some NAS devices can share a USB printer across your network saving you the expense of a buying an Ethernet printer. A NAS device with a Universal Plug and Play (UPnP) media server can stream your music, photos and videos to a network media player, so you can enjoy your media collection in another room.